WETLAND WILDLIFE HABITAT MANAGEMENT

Code 644

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

Retaining, developing, or managing wetland habitat for wildlife.

II. Purpose

To maintain, develop, or improve habitat for waterfowl, furbearers, or other wetland associated flora and fauna.

This standard and specification provides guidance on wetland habitat management that is oriented to waterfowl and other water-dependent species. The premise is that good waterfowl areas are, with few exceptions, good wildlife areas. Migratory birds, reptiles and amphibians, mammals, shorebirds, wading birds, and other resident wildlife will also benefit from the management described herein. (See the U.S. Fish and Wildlife Service Waterfowl Management Handbook.)

III. Conditions Where Practices Applies

This practice applies on or adjacent to wetlands, rivers, lakes, ponds, fens, or other water bodies where wetland-associated wildlife habitat can be managed. This practice applies to natural wetlands and water bodies as well as wetlands that have been previously restored, enhanced, or created.

IV. Federal, State, and Local Laws

Users of this standard shall comply with applicable federal, state, and local laws, rules, regulations, or permit requirements governing wetland wildlife habitat management. This standard does not contain the text of federal, state, or local laws.

V. Criteria

The following criteria are applicable to all purposes

A. General Criteria

1. For the desired natural community or selected wildlife species, identify the types, amount, and distribution of habitat elements, and management actions necessary to achieve the management objectives, in a management plan.

2. NRCS Field Office Technical Guide (FOTG), Section IV, Standard 657, Wetland Restoration, will be used if embankments, scrapes, ditch plugs, or tile breaks are needed.

3. All disturbed areas will be seeded to wildlife friendly vegetation according to a re-vegetation plan. Use NRCS FOTG Standard 327, Conservation Cover, unless the area is subject to frequent overflow. If spillway protection is needed, then NRCS FOTG Standard 342, Critical Area Planting, will be used. Native plant materials will be used whenever possible to provide the intended protection.

4. Biological control of undesirable plant species and pests (e.g., using predator or parasitic species) shall be implemented where available and feasible.

5. Management measures shall be provided to control invasive species and noxious weeds on a “spot” basis.

6. Any habitat management technique will ensure that the soil resource base is protected.

7. Livestock grazing or haying can be used to maintain or improve vegetation structure and composition so as to improve the desired wildlife habitat. This will require a detailed management plan.

8. See NRCS FOTG Standard 646, Shallow Water Management for Wildlife, for information on shallow water on agricultural fields and moist soil areas.

B. Wetland Development

1. The developed area will be at least one acre. Larger areas will attract and hold more wetland wildlife species.

2. 20 to 40 percent of the developed area will be designed to have an average water depth of no more than two feet. At least 50 percent of the area will be designed to have an average depth of 6 inches. The remaining area can be upland nesting areas, buffer areas, island loafing areas, or deeper borrow pits used in berm construction.

3. Vegetative re-establishment will be comprised of native species that occur on the wetland type being restored.

4. In soils where seedbanks of desirable species exist or natural succession of selected species will begin to occur in less than five years, natural regeneration will be the preferred method for revegetation. The topsoil from wetland-excavated areas will be stock piled and redistributed to maintain plant seedbanks.

5. If the hydric soil area is bare or has undesirable species (i.e. reed canary grass, giant ragweed, stinging nettle, etc.) and planting is necessary, then a minimum of three species adapted to the site should be planted. Planting rates and species will be based on Wisconsin Agronomy Technical Note 5. Herbaceous vegetation may also be established by placing soil containing seed or tubers at a minimum depth of 4 inches over 50 percent of the site.

6. Creative scrapes should be used to intersperse open water and emergent cover. Irregular-shaped scrape areas should be used instead of straight-sided (square/rectangular) areas.

7. Habitat islands can provide loafing, resting, and nesting sites. Islands should be at least 15 feet in width and be 1-3 feet above normal water level in the wetland area. Islands of oblong shape parallel with water flow are desired. Islands should have at least a 6-foot top. At least one-fourth of the side slope should be 8:1 or flatter.

8. An adequate water control structure is desirable (but not required) to manipulate levels for vegetation succession and control. Slow removal of shallow water will expose mudflats for wetland wildlife use. See NRCS FOTG Standard 587, Structure For Water Control, for additional information.

9. A water management plan, when needed, will be developed to insure proper use of water level manipulation. Consult with the NRCS Biologist or Wisconsin Department of Natural Resources (WDNR) Biologist for specific recommendations.

C. Crop Fields/Moist Soil Areas

NRCS FOTG Standard 646, Shallow Water Management, will be used to develop/manage these areas.

D. Water Supply

1. Opportunistic water supply (flooding or rainfall) will provide an adequate water source in most years.

2. For optimum benefits, a source of water to flood wetland areas must be adequate and dependable. The source should be sufficient to flood one-third to one-half the area within one week.

E. Nesting Cover

1. Nesting cover is a vital component of the wetland wildlife habitat. Monotypic areas of reed canary grass are not ideal nesting cover since they are subject to flooding, excessive predation, and are extremely dense. Upland nest cover of undisturbed grass or a grass/legume combination is ideal. Nesting areas should not be over one-half mile from brood water. The standard and specifications for NRCS FOTG Standard 645, Upland Wildlife Habitat Management, provides guidance for nesting cover establishment and management.

2. Wood ducks, merganzers, and some other tree cavity nesters will also utilize artificial nest structures. Wood duck nest boxes should be 30-50 feet above the ground, although heights of 6-65 feet are acceptable. Where the tree or post is surrounded by water, the nest structure may be as low as 3-4 feet above the water. Place no more than 5 boxes per acre with a separation of 600 feet between each box, not visible to one another, and within one-half mile of streams and brood rearing cover. There are several types of wood duck boxes available. It is important that they be predator proof and be cleaned and maintained annually. (For construction specifications, see USDA,

NRCS, Wildlife Habitat Management Institute website at: *www.ms.nrcs.usda.gov/whmi/pdf/woodduck.pdf.)*

3. Nesting cylinders, used by mallards, may also be installed in open water of depths greater than 3 feet to prevent easy access by predators.

F. Loafing Sites

Anchored floating logs or rafts (4 feet x 4 feet) provide structure and are attractive to waterfowl and turtles, as are rock piles in shallow locations. Trees cleared to complete restoration and enhancement construction practices should be dragged into areas that will be inundated. Three loafing sites per surface acre of water are recommended.

VI. Operation and Maintenance

A. An Operation and Maintenance Plan shall be developed with the landowner or operator that is consistent with the purposes of this practice, intended life span of the components, and criteria for design.

B. The plan shall include monitoring and management of the overall site, as well as structural and vegetative measures. The area should be reviewed annually to see if adjustments are needed in any water/vegetation management plan.

C. Repair and upkeep of the practice (maintenance) shall be carried out as needed, such as repair or replacement of vegetative or structural components.

D. The following activities will be addressed in the plan:

1. Timing and level setting of water control structures required for establishment of desired hydrologic conditions or for management of vegetation.

2. Inspection schedule of embankments and structures for damage assessment.

3. Depth of sediment accumulation allowed before removal is required.

4. Management needed to maintain vegetation, including control of unwanted vegetation.

5. Description of acceptable uses and timing restrictions for supporting management practices (e.g., grazing and haying).

E. Inspect the area adjacent to the facility to ensure the area is well protected with desirable vegetation.

VII. Planning Considerations

A. Consider the accessibility of the site for installation and maintenance.

B. Consider any effects on unique flora and fauna, non-target species and threatened and endangered species.

C. Consider the aesthetics of the installation.

D. Consider the effects of movement of dissolved substances on groundwater and downstream surface waters.

E. Consider the effects of runoff, infiltration, evaporation, and transpiration on the water budget.

F. Consider the effects on downstream flows or aquifers that would affect other water uses or users.

G. Consider that nutrients and pesticides contained in surface and ground water, as well as accumulated sediments, may have an adverse effect on wetland vegetation. The nutrient and pesticide tolerance of the species planned along with the wetland objectives should be considered where known nutrient and pesticide contamination exists.

H. Consider the need for buffer practices beneficial to wildlife around the perimeter of the site. Plan practices such as NRCS FOTG Standards 393 Filter Strip, 386, Field Border, and/or 327, Conservation Cover, to create a vegetative buffer between the management unit and adjacent land uses. This buffer should be at least 30 feet wide, or wider, depending on its purpose.

I. Consider the effects of management actions on compliance with state and federal hunting regulations.

J. Consider the effects of elevated wildlife uses on adjacent lands (crop depredation).

K. Consider the effects on adjacent wetlands or water bodies that contribute to wetland system

complexity and diversity, decrease habitat fragmentation, and maximize use of the site by wetland associated wildlife.

L. Consider flood impacts or water seepage problems on adjacent non-wetland areas.

M. Consider use of these areas by reptiles and amphibians. Stacked logs and/or rock piles may be located near the water's edge to provide critical habitat for local reptile and amphibian species.

VIII. Plans and Specifications

A. Plans and specifications for this practice shall be prepared for each site. Plans and specifications shall be recorded using approved specification sheets, job sheets, technical notes, or narrative documentation in the conservation plan, or other acceptable documentation to describe the requirements for applying the practice to achieve its intended use.

B. Targeted plant community or species of wildlife will be recorded.

C. Document how habitat needs will be provided.

1. Desired depth of water needed during the different seasons.

2. Types, locations, and sizes of structures required.

3. Desired plant species and the means of establishing and maintaining them.

IX. References

U.S. Fish and Wildlife Service, Waterfowl Management Handbook, website: *www.nwrc.usgs.gov/wbd/pub/wmh/contents.html.*

USDA, NRCS Wisconsin Field Office Technical Guide (FOTG), Section IV, Practice Standards and Specifications.

USDA, NRCS, Wildlife Habitat Management Institute, Wood Duck (Fish & Wildlife Habitat Management Leaflet). Website: *www.ms.nrcs.usda.gov/whmi/pdf/woodduck.pdf.*